



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,220	03/02/2004	Tsuyoshi Okazaki	118772	9852

25944 7590 09/20/2005

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

KIM, RICHARD H

ART UNIT PAPER NUMBER

2871

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,220

Applicant(s)

OKAZAKI ET AL.

Examiner

Richard H. Kim

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al. (US 6,040,886) in view of Lu (US 6,426,786 B1).

Referring to claims 1-5 and 8 Ota et al. discloses an electronic device comprising a liquid crystal device comprising an array substrate on which a plurality of electrodes are formed in a matrix manner (2, 3, 5); an opposed substrate on which a conductive light shielding film having openings at position opposing the pixel electrodes is formed (14), the light shielding film being applied with a voltage (col. 6, lines 12-16); and a liquid crystal layer interposed between the substrates (9), the liquid crystal layer, and the liquid crystal being aligned by an electric field developed by difference in electric potential between the pixel electrodes and the light shielding film (col. 6, lines 12-16). However, the reference does not disclose that the liquid crystal has negative dielectric anisotropy exhibiting homeotropic alignment in the alignment state.

Lu discloses a liquid crystal having negative dielectric anisotropy exhibiting homeotropic alignment in the alignment state (col. 7, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made employ a liquid crystal having negative dielectric anisotropy exhibiting

Art Unit: 2871

homeotropic alignment in the alignment state since one would be motivated to provide precise alignment of the liquid crystals.

Referring to claim 2, Ota et al. discloses the device having a projection or an opening formed on the pixel electrode (3).

Referring to claim 3, Oto et al. discloses the device previously recited, but fails to disclose that the liquid crystal has chiral material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the liquid crystal to have chiral material since utilizing chiral material in the liquid crystal is well known in the art to improve response time.

Referring to claims 4 and 5, Oto et al. discloses a device wherein the shape of the pixel electrode is rectangular (3).

Referring to claim 9, Oto et al. discloses a device comprising a pair of substrates (19, 20); a liquid crystal layer interposed between the substrates (9), a voltage applying device that applies voltage to the liquid crystal layer, the voltage applying device including a plurality of pixel electrodes arranged in a matrix and a conductive light shield film (14, 3), the pixel electrodes being disposed on one side of the liquid crystal layer and the light shielding film being disposed on the other side of the liquid crystal layer (3, 14), the pixel electrode being selectively applied with voltage and the light shielding film being applied with voltage to selectively develop an electric field between the pixel electrode and the light shielding film for controlling alignment of the liquid crystal (col. 6, lines 12-16), the light shielding film having openings at positions opposing the electrodes (3). Even though Oto does not explicitly state the specifics of the

voltage being applied in such a way, common electrodes and pixel electrodes operate in such a manner to align liquid crystals.

However, the reference does not disclose that the liquid crystal has negative dielectric anisotropy exhibiting homeotropic alignment in the alignment state.

Lu discloses a liquid crystal having negative dielectric anisotropy exhibiting homeotropic alignment in the alignment state (col. 7, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made employ a liquid crystal having negative dielectric anisotropy exhibiting homeotropic alignment in the alignment state since one would be motivated to provide precise alignment of the liquid crystals.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oto et al. in view of Baek et al. (US 6,657,689 B2).

Oto et al. and Lu disclose the device previously recited, but fails to disclose the device comprising a circular polarization injecting device onto the array substrate and the opposed substrate.

Baek et al. discloses a device comprising a circular polarization injecting device onto the array substrate and the opposed substrate (Fig. 9, ref. 215, 231).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a circular polarization injecting device onto the array substrate and the opposed substrate since one would be motivated to achieve high contrast ratio (abstract).

Art Unit: 2871

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of Hayashi (US 6,540,361).

Oto et al. and Lu disclose the device previously recited, but fails to disclose that the pixel pitch is 20 microns or below.

Hayashi discloses a device wherein the pixel pitch is 20 microns or below (col. 2, lines 20-22).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a device wherein the pixel pitch is 20 microns or below since one would be motivated to obtain sufficiently high resolution (col. 2, lines 20-22).

Response to Arguments

5. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 2871

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RHK

Richard H Kim
Examiner
Art Unit 2871


ROBERT KIM
SUPERVISORY PATENT EXAMINER